Quantifying Forestry BMP Effectiveness
A Regional Approach to TMDL Implementation

2006 National Nonpoint Source Coordinators Meeting

Jeff Vowell – Florida Division of Forestry

Presentation Outline

- Frame the Issue – What's the problem?
- Present an Example
- Regional Modeling Approach - Overview

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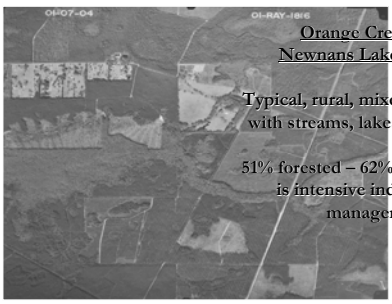
- TMDL implementation calls for pollution load reduction (PLR) to achieve target concentrations.
- Forestry is a major land use nationally - for which BMPs have been established.
- Nonpoint source pollution load reduction strategies in forested watersheds must necessarily include BMPs.
- Determining the "forestry NPS contribution" in a given (TMDL) watershed is elusive.
- Forestry BMPs have proven effective, but quantifying PLR from BMP implementation is even more elusive.

Florida Example

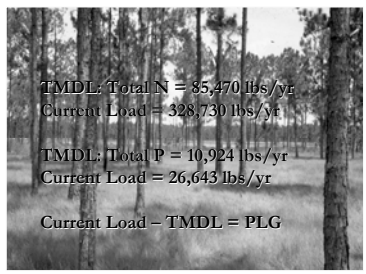


Orange Creek Basin
Newnans Lake Sub-basin

Typical, rural, mixed-land use area with streams, lakes and wetlands.

51% forested – 62% of forested area is intensive industrial pine management.

Florida Example



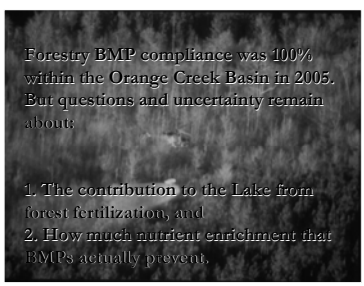
TMDL: Total N = 85,470 lbs/yr
Current Load = 328,730 lbs/yr

TMDL: Total P = 10,924 lbs/yr
Current Load = 26,643 lbs/yr

Current Load – TMDL = PLG

Basin Management Action Plan

Florida Example



Forestry BMP compliance was 100% within the Orange Creek Basin in 2005. But questions and uncertainty remain about:

1. The contribution to the Lake from forest fertilization, and
2. How much nutrient enrichment that BMPs actually prevent.

Forestry BMP Survey 2005

Solution: A Regional Modeling Approach

Project Title: Development, Evaluation and Application of Tools to Quantify the Effectiveness of Best Management Practices in the Southern U.S.

Objective: Deliver to State Foresters a standard set of tools (model) for quantifying BMP effectiveness applicable to forest management activities across the south.

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- Evaluate current models, select the most appropriate
- Modify and adapt the model to include BMPs and test model predictions
- Apply model to the full range of forest conditions, management intensities, and physiographic areas
- Validate model across the region with on-site measurements.

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